

## Remarks

Claims 1–48 are pending in this application.

### Section 103 Rejection

Claims 1-48 have been rejected under section 103 as being unpatentable over Chaudhuri et al., “An Overview of Data Warehousing and OLAP Technology,” *ACM SIGMOD Record* 1997 (Chaudhuri). Reconsideration and allowance of the claims are respectfully requested. The prior art does not show or suggest each and every feature recited in the claims of the invention.

Claim 1 recites “denormalizing the summarization of the transition table format information to produce a plurality of denormalized information, wherein denormalizing comprises *propagating information from one table to another, wherein each of the tables is at a different level of a hierarchical structure based on the hierarchy of the facts tables.*”

Claim 10 recites “denormalizing the summarization of the transition table format information to produce a plurality of denormalized information, the denormalizing comprising populating selected information from at least one of a plurality of facts tables, stored in a facts table database, to a key table, stored in a groupings tables database, wherein the denormalizing further comprises *propagating the selected information from one table to another, each of the tables being at a different level of a hierarchical structure based on the hierarchy of the facts tables.*”

Claim 15 recites “code that denormalizes the summarization of the transition table format information to produce a plurality of denormalized information, the denormalization comprising populating selected information from at least one of a plurality of facts tables, stored in a facts table database, to a key table, stored in a groupings tables database, wherein the denormalization further comprises *propagating information from one table to another, each of the tables being at a different level of a hierarchical structure based on the hierarchy of the facts tables.*”

Claim 20 recites “means for denormalizing the summarization of the transition format information to produce a plurality of denormalized information, the means for denormalizing comprising populating selected information from at least one of a plurality of facts tables, stored in a facts table database, to a key table, stored in a groupings tables database, wherein the means for denormalizing further comprises *propagating information from one table to another, each of*

*the tables being at a different level of a hierarchical structure based on the hierarchy of the facts tables.”*

Claim 21 recites “the application server denormalizes the summarization of the transition format information to produce a plurality of denormalized information, the denormalization comprising populating selected information from at least one of a plurality of facts tables, stored in a facts table database, to a key table, stored in a groupings tables database and *propagating information from one table to another, each of the tables being at a different level of a hierarchical structure based on the hierarchy of the facts tables.*”

Claim 28 recites “transforming a subset of the plurality of direct marketing subscription information into a *plurality of transition tables, structured hierarchically.*”

Claim 42 recites “using the plurality of transition tables, generating a first lookup table, wherein the first lookup table comprises *a first level of a hierarchy of the transition tables,*” “wherein the second lookup table comprises *a second level of the hierarchy of the transition tables, which is below the first level of the hierarchy,*” “wherein the third lookup table comprises *a third level of the hierarchy of the transition tables, which is below the second level of the hierarchy,*” wherein the fourth lookup table comprises *a fourth level of the hierarchy of the transition tables, which is below the third level of the hierarchy.*”

The prior art does not show or suggest at least the recited features of the claims. In particular, Chaudhuri does not show or suggest denormalizing to produce denormalized information, where data is propagated from one table to another table (and so forth), and the tables are at different levels of a hierarchical structure. On pages 17–18, Chaudhuri describes:

Star schemas do not explicitly provide support for attribute hierarchies. *Snowflake schemas* provide a refinement of star schemas where the dimensional hierarchy is explicitly represented by normalizing the dimension tables, as shown in Figure 4. This leads to advantages in maintaining the dimension tables. However, the denormalized structure of the dimensional tables in star schemas may be more appropriate for browsing the dimensions.

Here, Chaudhuri discusses a denormalized structure in connection with star schemas, which *do not* provide support for attribute hierarchies. Rather, a dimensional hierarchy is represented by normalizing (in contrast to denormalizing) the dimension tables. Clearly, Chaudhuri does not show or suggest denormalizing to obtain tables in a hierarchical structure for analyzing direct

marketing subscription information as in the invention. Chaudhuri does not provide the benefits of the invention as recited in application.

For at least this reason, claims 1–48 should be allowable.

Furthermore, claims 1–48 recite additional features not shown or suggested by Chaudhuri, and the claims should be allowable for at least these additional reasons.

### **Claim 28**

Taking claim 28 as a representative example, Chaudhuri does not show or suggest the features recited in the claim. Specifically, nowhere does Chaudhuri show or suggest “using the plurality of transition tables, generating a *first lookup table*, wherein the first lookup table comprises a *first level of a hierarchy* of the transition tables.”

Nowhere does Chaudhuri show or suggest “transforming a subset of the plurality of direct marketing subscription information into a plurality of transition tables, *structured hierarchically*.”

Nowhere does Chaudhuri show or suggest “using a *first set of stored procedures*, generating a *first lookup table* for a lookup database, wherein the first lookup table comprises a *first level of a hierarchical structure*.”

Nowhere does Chaudhuri show or suggest “using a *second set of stored procedures*, generating a *second lookup table* for a lookup database by propagating at least a portion of information from the first lookup table to the second lookup table, wherein the second lookup table comprises a *second level of the hierarchical structure*, below the first level.”

Nowhere does Chaudhuri show or suggest “using a *third set of stored procedures*, generating a *key table* by denormalizing the first and second lookup tables in the facts database, wherein the key table comprises the first and second levels of the hierarchical structure.”

Nowhere does Chaudhuri show or suggest “generating a first report by *using the key table*, *without referring to the first or second lookup tables*, whereby generating the first report without referring to the first or second lookup tables reduces disk access, thereby improving performance.”

For these additional reasons, claim 28 and its dependent claims should be allowable.

## Claim 42

Taking claim 48 as a representative example, Chaudhuri does not show or suggest the features recited in the claim. Specifically, nowhere does Chaudhuri show or suggest “using the plurality of transition tables, generating a *first lookup table*, wherein the first lookup table comprises a *first level of a hierarchy* of the transition tables.”

Nowhere does Chaudhuri show or suggest “creating a *second lookup table* by propagating at least a portion of information from the first lookup table to the second lookup table, wherein the second lookup table comprises a *second level of the hierarchy* of the transition tables, which is below the first level of the hierarchy.”

Nowhere does Chaudhuri show or suggest “creating a *third lookup table* by propagating at least a portion of information from the second lookup table to the third lookup table, wherein the third lookup table comprises a *third level of the hierarchy* of the transition tables, which is below the second level of the hierarchy.”

Nowhere does Chaudhuri show or suggest “creating a *fourth lookup table* by propagating at least a portion of information from the third lookup table to the fourth facts table, wherein the fourth lookup table comprises a *fourth level of the hierarchy* of the transition tables, which is below the third level of the hierarchy.”

Nowhere does Chaudhuri show or suggest “*generating a key table* by denormalizing the *first, second, third, and fourth lookup tables*.”

Nowhere does Chaudhuri show or suggest “upon receiving a first report request from a client device, *generating a first report using the key table without using to the first, second, third, and fourth lookup tables*.”

For these additional reasons, claim 42 and its dependents should be allowable.

## **Conclusion**

For the above reasons, applicants believe all claims now pending in this application are in condition for allowance. Applicants respectfully request that a timely Notice of Allowance be issued in this case. If the examiner believes a telephone conference would expedite prosecution of this application, please contact the signee.

Respectfully submitted,

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